

**ABSTRACT OF THE DISCLOSURE****AUTONOMIC METHOD AND APPARATUS FOR COUNTING BRANCH  
INSTRUCTIONS TO IMPROVE BRANCH PREDICTIONS**

A method, apparatus, and computer instructions for autonomically counting selected branch instructions executed in a processor to improve branch predictions. Counters are provided to count branch instructions that are executed in a processor to collect branch statistics. A set of branch statistics fields is allocated to associate with a branch instruction. When a program is executed, the stored statistics allows the program to look at the branch statistics in the counter to perform branch prediction. Hence, a user may use branch statistics values from the hardware counter to perform analysis on application code.